

**Program for the 34th Annual Climate Diagnostics and Prediction Workshop
Hyatt Regency Hotel
Monterey, CA, October 26-30, 2009**

All workshop sessions will be held in the Monterey Grand Ballroom (MGB) area of the hotel. The oral sessions will be held in the Beach-Pacific Room of the MGB area, and the poster sessions will be held in the Grove Room of the MGB area.

Monday, October 26, 2009

07:00 – 08:00 Registration

08:00 – 09:00 **Welcoming Remarks and Keynote Speech**

Wayne Higgins, Climate Prediction Center
Tom Murphree, Naval Postgraduate School
David Titley, Oceanographer of the Navy

Session 1: Recent Climate Events Chair: Wayne Higgins

09:00 - 09:20 *An overview of the 2008-2009 La Nina and transition to El Nino*
Michelle L'Heureux and CPC ENSO Forecast Team, CPC

09:20 – 09:40 *An evaluation of the skill of ENSO forecasts during 2002-2009*
Anthony Barnston and M. Tippett, IRI

09:40 – 10:00 *An overview of the 2009 hurricane season*
Jae-Kyung Schemm and G. Bell, CPC

10:00 – 10:20 *Reducing the area covered by "EC" in CPC 3-month outlooks*
Ed O'Lenic, CPC

10:20 – 10:50 Break

10:50 – 11:10 *The world-wide monsoon systems in 2008-2009*
Song Yang and CPC Global Monsoon Monitor Team, CPC

11:10 – 11:30 *Assessment of recent hydrologic anomalies in Africa*
Wassila Thiaw, V. Kumar, N. Novella, E. Wolvovsky and A. McCoy, CPC

11:30 – 11:50 *Annual U.S. drought highlights and verification of the CPC seasonal drought outlooks*
Douglas Le Comte, CPC

11:50 – 13:00 Lunch

**Session 2: Shift in Climate Means and Interdecadal Variability
Chair: Wieslaw Maslowski**

- 13:00 – 13:20 *Interdecadal modulation of the impact of ENSO on hydroclimate over the United States*
Kingtse Mo, CPC
- 13:20 – 13:40 *Prediction of TC frequency and seasonality within the core of the warm pool of the Americas*
Phillip Englehart and A. Douglas, Creighton University
- 13:40 – 14:00 *The South American monsoon system and the 1970s climate transition*
Leila Carvalho, C. Jones, B. Liebman, A. Silva and P. Silva Dias, UCSB
- 14:00 – 14:20 *A global perspective of southern Asian monsoon annual mean precipitation in the Global Precipitation Climatology Project analysis (1979-2006)*
A. Sudrajat, A. Gruber, J. Janowiak and R. Ferraro, UMD/ESSIC
- 14:20 – 14:40 *Two types of strong northeast Asian summer monsoon*
Jung-Eun Kim, Yonsei University, Korea
- 14:40 – 15:00 *Shifts in tropical climate in global reanalyses associated with increase in hurricane activity since 1995*
Muthuvel Chelliah, CPC
- 15:00 – 15:30 Break
- 15:30 – 15:50 *Interannual and interdecadal variations of winter time blocking frequency over the Asian continent and its relation to east Asian winter monsoon*
Hyunsoo Lee, W. Yun and C. Park, KMA, Korea
- 15:50 – 16:10 *Predictability of seasonal Sahel rainfall using GCMs and lead-time improvements using a coupled model*
Ousmane Ndiaye, N. Ward and W. Thiaw, IRI
- 16:10 – 16:30 *The role of long-term trend in seasonal predictions: Implication of global warming in the NCEP CFS*
Ming Cai and Co-authors, FSU
- 16:30 – 16:50 *Decadal prediction: Periodicity and its discontents*
Arthur Greene, IRI
- 16:50 – 17:10 *Towards advanced understanding and prediction of Arctic climate change*
Wieslaw Maslowski, NPS
- 17:10 – 17:30 *The atmospheric circulation response to climate change-like thermal forcings in a simple model*
Amy Butler, CPC
- 18:00 – 19:30 **Ice breaker social event at Monterey Grand Ballroom Terrace of the Hyatt Regency Hotel**

Tuesday, October 27, 2009

**Session 3: Coupled atmosphere-ocean modeling of the climate system
- CFS Reanalysis Chair: Suranjana Saha**

- 08:00 – 08:20 *Overview of the CFS Reanalysis Project*
Suranjana Saha, EMC
- 08:20 – 08:40 *Assembly and application of NCEP/CFSRR observation datasets*
Jack Woollen, EMC
- 08:40 – 09:00 *The land analysis for the NCEP CFSRR*
Michael Ek, J. Meng, R. Yang, G. Gayno and P. Xie, EMC
- 09:00 – 09:20 *The oceanic component of Climate Forecast System Reanalysis*
Yan Xue, D. Behringer, B. Huang and A. Kumar, CPC
- 09:20 – 09:40 *CFSRR: Assessment of CFSRR medium range forecast skill*
Robert Kistler, EMC
- 09:40 – 10:00 *Monitoring atmospheric mass in CFSR*
Huug van den Dool and S. Saha, CPC
- 10:00 – 10:30 Break
- 10:30 – 10:50 *Surface temperature, precipitation and fluxes in the CFSR*
Wanqiu Wang, P. Xie, S. Yoo, Y. Xue and A. Kumar, CPC
- 10:50 – 11:10 *Intercomparison of daily precipitation statistics over the United States
in observations and reanalysis products*
Wayne Higgins and V. Kousky, CPC

**Session 4: Coupled atmosphere-ocean modeling of the climate system
- Intraseasonal and seasonal predictability
Chair: Arun Kumar**

- 11:10 – 11:30 *A framework for assessing operational model MJO forecasts*
Jon Gottschalk, CPC
- 11:30 – 11:50 *Probabilistic forecast skill of extreme weather in weeks 1-4 in the United
States during winter*
Charles Jones, J. Gottschalk, L. Carvalho and W. Higgins, UCSB
- 11:50 – 12:10 *Evaluation of MJO hindcast skill of the GEOS5 coupled model*
Yehui Chang, S. Schubert, M. Suarez and D. Waliser, NASA/GSFC
- 12:10 – 13:30 Lunch
- 13:30 – 15:00 **Poster session 1**

Session 4 – continue

- 15:00 – 15:20 *Representation of MJO variability in the NCEP Climate Forecast System*
Scott Weaver, W. Wang and A. Kumar, CPC
- 15:20 – 15:40 *Influence of atmospheric intraseasonal variability on ENSO prediction*
Wanqiu Wang, M. Chen A. Kumar and Y Xue, CPC
- 15:40 – 16:00 *Statistical-dynamical intraseasonal prediction of tropical cyclogenesis in the western north Pacific*
Tom Murphree, D. Meyer, B. Mundhenk and C. Raynack, NPS
- 16:00 – 16:20 *Seasonal Atlantic hurricane forecasting using the CFS SST data*
Tim LaRow, FSU
- 16:20 – 16:40 *Dynamic hurricane season prediction experiment with the NCEP CFS GCM*
Lindsey Long and J. Schemm, CPC
- 16:40 – 17:00 *Caribbean/Central America hurricane landfall probabilities*
Philip Klotzbach, CSU
- 17:00 – 17:20 *Seasonal predictability of the Atlantic warm pool in the NCEP CFS*
Vasubandhu Misra, FSU

Tuesday, October 27, 2009

13:30 – 15:00

Poster Session 1 Chair: Yan Xue

- P1-01 *Overview of the 2008-2009 global monsoons*
Song Yang and CPC Global Monsoons Team, CPC
- P1-02 *The NCEP GODAS ocean analysis of the tropical Pacific mixed layer heat budget on seasonal to interannual time scales*
Boyin Huang, CPC
- P1-03 *The relationship between dominant modes of oscillations and intraseasonal climate variability over Canada*
Amir Shabbar, Environment Canada
- P1-04 *Spatial analysis of extreme precipitation events in high-resolution climate model results and observations over the Korean peninsula*
Yu-Kyung Hyun and Co-authors, KMA, Korea
- P1-05 *Advanced oceanic monitoring tools for ENSO: Application to the recent ENSO cycles during 2006-2009*
Yan Xue, B. Huang and A. Kumar, CPC
- P1-06 *Atlantic Meridional Overturning circulation simulated by NCEP GODAS*
Boyin Huang, CPC
- P1-07 *Influence of Atlantic Meridional Overturning circulation changes in tropical Atlantic variability: A regional coupled model study*
Caihong Wen, P. Chang and R. Saravanan, CPC
- P1-08 *Decadal variation of the Madden-Julian Oscillation*
Kyong-Hwan Seo, Pusan National Univ., Korea
- P1-09 *Investigating decadal variability and trends in the Pacific Decadal Oscillation*
Celine Bonfils, LLNL
- P1-10 *Assess global SST impact on the atmosphere in the observation using the generalized equilibrium feedback analysis*
Zhengyu Liu, Univ. of Wisconsin
- P1-11 *Robust land-ocean contrasts in energy and water cycle feedbacks*
John Fasullo, NCAR
- P1-12 *Can a classical eastern boundary upwelling system (EBUS) like the Benguela turn into an anomalous EBUS like the Leeuwin Current System (LCS) in a changing climate?*
Mary L. Batteen, NPS
- P1-13 *Evaluation of atmospheric analyses and climate variability from NCEP's new Climate Forecast System Reanalysis (CFSR) as compared to ERA40, NCEP/NCAR R1 and NCEP/DOE R2*
Muthuvel Chelliah, CPC

- P1-14 *Relationship between SST and precipitation in tropical oceans in CFSR*
Jiande Wang, EMC
- P1-15 *Summer season predictions over America with the NCEP CFS using different
land surface models and different initial conditions*
Rongqian Yang, K. Mitchell, J. Meng and M. Ek, EMC
- P1-16 *A preliminary overview of surface water components in the NCEP CFSR
and the Global Reanalysis II (GR2)*
Rongqian Yang, M. Ek and J. Meng, EMC
- P1-17 *Global soil moisture fields in the NCEP CFSR*
Jesse Meng, M. Ek and R. Yang, EMC
- P1-18 *Sea ice in the CFS Reanalysis*
Xingren Wu, EMC
- P1-19 *The diurnal cycle of SST in CFSRR*
Sudhir Nadiga, EMC
- P1-20 *Preliminary evaluation of the upper atmosphere in the CFS Reanalysis*
Craig Long, S. Zhou, S-K Yang and A. Butler, CPC
- P1-21 *Data available from the NCEP CFSRR*
Patrick Tripp, EMC
- P1-22 *Preliminary comparison of the Climate Forecast System Reanalysis to
an ensemble of analyses*
Wesley Ebisuzaki, CPC

Wednesday, October 28, 2009

**Session 5: Coupled atmosphere-ocean modeling of the climate system
- Predictability Chair: Kingtse Mo**

- 08:00 – 08:20 *APCC operational climate prediction and model diagnostics*
Woo-Jin Lee, K. Ashok, D. Lee and H. Jeong, APCC, Korea
- 08:20 – 08:40 *Dynamical downscaling of coupled atmosphere-ocean seasonal forecasts*
Raymond Arritt, Iowa State University
- 08:40 – 09:00 *Multi-model high resolution seasonal climate forecasting system: an application to southeast US*
Young-Kwon Lim and Co-authors, FSU
- 09:00 – 09:20 *Exploring possibility to forecast annual mean temperature with IPCC and AMIP runs*
Peitao Peng and A. Kumar, CPC
- 09:20 – 09:40 *Understanding uncertainty in climate model components*
Robin Tokmakian, NPS
- 09:40 – 10:00 *Can small ensembles reproduce non-Gaussian forecast statistics?*
L. Ivanov, C. Collins and T. Margolina, NPS
- 10:00 – 10:20 Break

**Session 6: Application of climate science in decision making
- Protected species, marine life and GIS applications
Chair: Paul Fiedler**

- 10:40 – 11:00 *Climate Shifts and management of marine mammals*
Paul Fiedler, I. Vilchis and L. Ballance, NOAA SW FSC
- 10:40 – 11:00 *Evaluating climate change effects on protected species: A cross-system approach for Oregon coast coho salmon*
Thomas Wainwright, P. Lawson and W. Peterson, NOAA NW FSC
- 11:00 – 11:20 *Integrating climate forecasting tools in predictive models of marine mammal distribution*
Elizabeth Becker, D. Foley, K. Forney and J. Barlow, NOAA SW FSC
- 11:20 – 11:40 *Incorporating climate change science in the Endangered Species Act Recovery Implementation Program for Texas Edwards aquifer*
Todd Votteler. Guadalupe-Blanco River Authority
- 11:40 – 12:00 *HabitatSpace – GIS based tools for marine habitat determination and marine spatial planning*
Tiffany Vance, NOAA/NMFS Alaska FSC

- 12:00 – 12:10 *Enabling the transition of CPC products to GIS format: GrADS/GIS*
Viviane Silva, J. Adams and W. Ebisuzaki, CPC
- 12:10 – 12:20 *An update on how CPC is utilizing GIS*
Kenneth Pelman and V. Silva, CPC
- 12:20 – 13:30 Lunch
- 13:30 – 15:00 **Poster session 2**
- Session 6: Application of climate science in decision making**
- Forecast applications Chair: Mike Halpert
- 15:00 – 15:20 *Leveraging new technologies for climate and drought information delivery*
Jason Symonds, NOAA/NESDIS/NCDC
- 15:20 – 15:40 *The current status of CFS and COAPS climate models in crop applications*
Dong-Wook Shin, COAPS/FSU
- 15:40 – 16:00 *The value of ENSO forecast information to dual purpose winter wheat production in the US southern High Plains*
Steven Mauguet, USDA
- 16:00 – 16:20 *Climate service for the tropical Pacific region – what do users need and what can we provide?*
Luke He and Co-authors, CPC
- 16:20 – 16:40 *NOAA local 3-month temperature outlook performance evaluation*
Marina Timofeyeva and Co-authors, NOAA/NWS
- 16:40 – 17:00 *The implications of replacing the IPCC Framework with a national standard based on Life Cycle Climate Framework*
Stanley Rhodes, SCS
- 19:00 - 23:00 **Dinner, exhibit viewing, discounted shopping, and guest presentation by Eileen Shea of NOAA Climate Data Center at the Monterey Bay Aquarium**

Wednesday October 28, 2009

13:30 – 15:00

Poster Session 2 Chair: Michelle L'Heureux

- P2-01 *Dynamic regional downscaling of the North American monsoon from NCEP Climate Forecast System*
Steven Chan, FSU
- P2-02 *Variability of the East Asian Mei-yu and prediction by the NCEP CFS*
Hui Gao and Co-authors, NCC, China
- P2-03 *Variability of the East Asian winter monsoon and prediction by the NCEP CFS*
Yueqing Li, S. Yang, R. Wu, W. Higgins and H. Gao, NCC, China
- P2-04 *Harvesting model uncertainty for the simulation of interannual variability*
Vasubandhu Misra, FSU
- P2-05 *The new seasonal prediction system at the Japan Meteorological Agency*
Yukiko Naruse and Co-authors, JMA, Japan
- P2-06 *Vertical heating structures associated with the MJO in JMA one-month model forecasts: A case study in December 2006*
Hitoshi Sato and Co-authors, JMA, Japan
- P2-07 *Factors affecting forecast skill of the MJO over the Maritime Continent*
Augustin Vintzileos, EMC
- P2-08 *Developing and improving MJO forecast tools using constructed analog model*
Qin Zhang, P. Peng and H. van den Dool, CPC
- P2-09 *Variability and predictability in seasonal mean surface temperature with ENSO SSTs*
Bhaskar Jha and A. Kumar, CPC
- P2-10 *Low-frequency variability of ocean sub-surface in the assimilation of SST into CFS*
Hui Wang and Co-authors, CPC
- P2-11 *The replication of ENSO-related anomalies over the United States by several AMIP models*
Michelle L'Heureux, A. Kumar, W. Wang and J. Bha
- P2-12 *Capturing time series of stochastic forcing*
Cecile Penland, PSD/ESRL
- P2-13 *Reemergence of sea ice cover anomalies and the role of the sea ice-albedo feedback in GCM simulations*
Eric DeWeaver, NSF
- P2-14 *Lessons learned from a super-parameterized coupled AOGCM simulation*
Charlotte DeMott, Colorado State Univ.

- P2-15 *The effect of spectral nudging in the coupled regional model simulation skill*
Elena Yulaeva and M. Kanamitsu, SIO/UCSD
- P2-16 *Multi-model seasonal climate forecast skill and predictability for the southeast US*
Lydia Stefanova, FSU/COAPS
- P2-17 *Evaluating the experimental extended GEFS*
Malaquias Pena, Y. Zhu, R. Wobus, D. Hou and Z. Toth, EMC
- P2-18 *Synthesis of climate modeling issues from FY09 NOAA CTB Joint Seminar Series*
Jiayu Zhou, OST/NWS

Thursday, October 29, 2009

**Session 7: Application of climate science in decision making
- Water management Chair: Kelly Redmond**

- 08:00 – 08:20 *Improving Millerton Lake flood control operations to increase water supply*
Antonio Buelna, D. DeFlitch and K. Lee, USBR
- 08:20 – 08:40 *Policy framework for incorporating climate products in western water management*
Jeanine Jones, CA Dept. of Water Resources
- 08:40 – 09:00 *Seasonal Markov mixture models for rainfall amounts: Implications of climate states*
Tirusew Asefa and A. Adams, Tampa Bay Water
- 09:00 – 09:20 *Improving seasonal predictions of climate variability and water availability at the catchment scale*
Matthew Switanek, Univ. of Arizona
- 09:20 – 09:40 *Paleo-climate data and adaptation measures in the Lower Colorado River Basin*
Kiyomi Morino and R. Bark, Univ. of Arizona
- 09:40 – 10:00 *Reliability of stream flow forecasts for the Rio Yaqui Basin*
Francisco Munoz-Arriola and Co-authors, Univ. of Washington
- 10:00 – 10:30 Break

**Session 8: Impact of global scale climate variations on western US weather
And climate - Processes affecting the western US
Chair: Huug van den Dool**

- 10:30 – 10:50 *Evaluation of 9 years of CPC long range precipitation forecasts in the northern Sierra Nevada*
Maurice Roos, CA Dept. of Water Resources
- 10:50 – 11:10 *A freezing level tool for drought monitoring*
Kelly Redmond, J. Abatzoglou and G. Kelly, DRI
- 11:10 – 11:30 *Development of new snowstorm indices and databases*
Michael Squires and Co-authors, NOAA/NESDIS/NCDC
- 11:30 – 11:50 *Precipitation analysis for improved monitoring and assessments of global climate*
Pingping Xie, S. Yoo, R. Joyce and Y. Yarosh, CPC
- 11:50 – 13:30 Lunch

13:30 – 15:00 **Poster session 3**

Session 8 - continue

15:00 – 15:20 *Evolution of MJO in ECMWF and GFS forecasts*
John Janowiak, UMD/ESSIC

15:20 – 15:40 *RAMS modeled differences between 1970 and 2005 summer day time
temperatures and winds in coastal California*
Bereket Lebassi, J. Gonzalez and R. Bornstein, Santa Clara Univ.

15:40 – 16:00 *Large scale patterns associated with California heat waves and their
use in a hindcast and future climate*
Richard Grotjahn, UC Davis

16:00 - 16:20 *Trends in cooling monthly maximum-temperatures in coastal areas of
the SFBA and LA during 1969-2005: averages and extremes*
Robert Bornstein, A. Charland, B. Lebassi and J. Gonzalez, San Jose State U.

16:20 – 16:40 *Association of wet and dry periods in northern California precipitation
with climate indices*
David Reynolds, NOAA/NWS

16:40 – 17:00 *SST diurnal cycle over western hemisphere: Preliminary results from the new
MPM high-resolution data set*
Wanqiu Wang, P. Xie and C. Huang, CPC

Thursday, October 29, 2009

13:30 – 15:00

Poster Session 3 Chair: Jae-Kyung Schemm

- P3-01 *Update and progress of the NCEP multi-model NLDAS for drought and flood monitoring and prediction*
Youlong Xia, EMC
- P3-02 *Evaluation of energy fluxes simulated by the NCEP North American Land Data Assimilation System (NLDAS)*
Matthew Switanek, Univ. of Arizona
- P3-03 *Joint Agricultural Weather Facility (JAWF)*
Viviane Silva and D. Miskus, CPC
- P3-04 *JAWF – Agricultural assessments*
Brian Morris and JAWF Team, USDA
- P3-05 *Human heat-stress values during the July 2006 Portland, Oregon heat wave*
Andrew Melford and R. Bornstein, San Jose State Univ.
- P3-06 *Predictions of the west coast climate using dynamical downscaling*
Darco Koracin and R. Vellore, DRI
- P3-07 *Interannual variability of the cyclonic activity along the US Pacific coast: Influences on the characteristics of winter precipitation in the western US*
Boksoon Myoung and Y. Deng, Georg. Inst. of Tech.
- P3-08 *Overview of Mexico City meteorological conditions using observations and numerical simulations*
Peter Kozich, B. de Foy, C. Graves and T. Eichler, St. Louis University
- P3-09 *Providing climate information to decision makers for MesoAmerican food security and early warning*
Angel McCoy, CPC
- P3-10 *Adaptation support for climate services: Sectors, regions, and product lines*
Tim Owen, NOAA/NESDIS/NCDC
- P3-11 *Climate change and national security impacts – A current survey*
David Smarsh and K. Pfeiffer, NPS
- P3-12 *Springtime in the Intra-Americas Seas: air-sea interactions, low-level jet, and impact on tornadoes and precipitation*
Ernesto Munoz, D. Enfield and C. Wang, NOAA/AOML

Friday, October 30, 2009

**Session 9: Impact of global scale climate variations on western US weather
And climate - Teleconnections and the western US
Chair: Tom Murphree**

- 08:00 – 08:20 *An assessment of the potential predictability of drought and pluvial conditions over the United States based on climate model simulations with specified SST*
Siegfried Schubert, H. Wang, M. Suarez and R. Koster, NASA/GSFC
- 08:20 – 08:40 *The characteristic of daily precipitation over the United States using the North American Regional Reanalysis*
Emily Becker, CPC
- 08:40 – 09:00 *The extratropical flow response to recurving tropical cyclones in the western North Pacific*
Heather Archambault, L. Bosart and D. Keyser, SUNY at Albany
- 09:00 – 09:20 *The mysterious coherence between the Pacific quasi-decadal oscillation and the Great Salt Lake level*
Shih-Yu Wang, R. Gillies, J. Jin and L. Hipps, Utah State Univ.
- 09:20 – 09:50 Break
- 09:50 – 10:10 *How unusual have recent ENSO event impacts been in the Western US?*
Klaus Wolter, Univ. of Colorado-CIRES
- 10:10 – 10:30 *Atmospheric rivers and snow accumulation in the Sierra Nevada: Relationship with mountain surface air temperature*
Bin Guan, NASA/JPL
- 10:30 – 11:00 Closing remarks
- 11:00 Workshop adjourns